# EXHIBIT "A"

Aperture - Southlake

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Jeffrey Glover & Tresa Glover v. Graphic Packaging Re: Subject

International, LLC

Date of Accident 01/11/2022 : 2:22-CV-00191 : 22264 Civil Action No.

Our File No. 22264

Dear Mr. Speer,

Pursuant to your request, I have completed an analysis concerning the above-referenced matter. To formulate opinions, the following items were reviewed:

- 1) Texas Peace Officer's Crash Report, TxDOT Crash ID: 18690840.1/2022009014;
- Provided photographs of plaintiffs' load;
- Provided videos of plaintiffs' vehicle at scene;
- 4) AT&T Fleet Complete GPS positional and speed data;
- 5) Provided ECM data from 2013 Freightliner;
- 6) Transcript of Jeffrey Glover's May 12, 2023, deposition;
- 7) Transcript of Jerry Hilton's June 15, 2023, deposition;
- 8) Transcript of Tonza Lyle's June 15, 2023, deposition;
- 9) Transcript of Alan Fonteneaux's May 15, 2023, deposition;
- 10) Provided discovery documents;



- 11) Statement of Ashly Myers taken on April 28, 2023;
- 12) Statement of Cory McMurry taken on April 28, 2023;
- **13)** Statement of Thomas McQueen taken on June 7, 2023;

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- 14) Statement of Lorrie Richardson taken on June 10, 2023;
- 15) Statement of Curtis McChester taken on May 15, 2023;
- 16) Plaintiff's July 19, 2023, First Amended Original Complaint;
- 17) Expert Report of Danny Phillips;

Please allow the following to serve as a summary of my opinions concerning the subject matter. All opinions contained herein are stated to a reasonable degree of scientific certainty unless otherwise noted.

## **INTRODUCTION**

According to the Texas Peace Officers' crash report, the subject accident involved a vehicle rollover at the intersection of US-59 and Bishop Road in Texarkana, Texas on January 11, 2022, at approximately 10:45am CST. In the area of the accident, US-59 (Lake Drive) was a two-lane roadway intersecting with Bishop Road. The weather was clear, and the roadway was dry. The posted speed limit was 55 miles per hour. The accident involved one vehicle. A 2013 Freightliner Cascadia tractor towing a 1992 Wabash National trailer, driven by Jeffrey Glover travelling eastbound on US-59 attempting to turn right onto southbound Bishop Road. The officer listed contributing factor as "unsafe speed" and may have contributed as "load not secured".

## **PRINCIPLES AND METHODS**

Principles and methods employed during my investigation, examination, evaluation, and analysis include, but are not limited to, the following:

#### **Principles**

Newton's three Laws of Motion and the mathematical relationships which apply to vehicle dynamics derived from the laws were employed in this analysis. These laws include concepts such as objects in uniform motion, acceleration due to gravity, friction, momentum, inertia, rectilinear and rotational velocity and acceleration, and center of mass.



#### Methods

1. Evaluation of crash-related evidence from provided photographs.

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- 2. Technical research regarding vehicle lighting, performance capabilities, weights, and dimensions.
- 3. Evaluation of witness testimony considering the physical evidence evaluation.
- 4. Application of mathematics to calculate impact forces, time, distance, and speed relationships as necessary.

The following discussion is the result of my analysis and evaluation of the totality of the evidence reviewed to date. My analysis and evaluation of the subject accident is based on my education, training, and experience in the investigation and reconstruction of motor vehicle crashes, and the Principles and Methods outlined above.

## **TESTIMONY ANALYSIS**

## **Deposition of Jeffrey Glover**

The deposition testimony of Mr. Glover was taken on May 12, 2023. Mr. Glover stated he was not allowed to inspect the load before he hooked on it. He stated he would do a tug pull, check the chassis locks on the trailer, check the tires, check air brake cylinders, check to make sure the door seals were on every load and make sure everything was good. Mr. Glover stated he drove one of two tractors owned by Abernathy, a blue or white Freightliner. Mr. Glover stated he performed pre-trip inspections on the tractor he drove every morning. Mr. Glover stated he only ever experienced one mechanical issue while driving an Abernathy truck and it was an ECM issue in the summer of 2021. Mr. Glover stated he would use the same route when picking up a load from Graphic Packaging and would not deviate from that route. Mr. Glover stated there were no issues with the trailer during his pre-trip inspection. Mr. Glover stated he believed a truck should be travelling 10-15 mph to take that curve safely. Mr. Glover stated he was told he was travelling 10 mph at the time of the accident, possibly based on data from the AT&T GPS. Mr. Glover stated as far as he could remember he came to a complete stop going around the curve because he looked to make sure no cars were coming. Mr. Glover stated when he came to a stop that's when he noticed the trailer falling. Mr. Glover stated he was trained to be careful going around that curve and he goes through that curve the same way every time. Mr. Glover stated he would normally go around that curve at 10 mph.1



<sup>&</sup>lt;sup>1</sup> Deposition of Jeffrey Glover taken May 12, 2023 – pages 40, 42, 91-93, 97, 141, 148, 151, 168, 186 and 303.

## Statement of Thomas McQueen and Curtis McChester

Witnesses stated they were travelling eastbound on Lake Drive and were sitting at the intersection of Bishop Road. Witnesses stated the tractor-trailer was travelling approximately 10 mph during the turn.<sup>2</sup>

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### Statement of Ashly Myers

The statement of Mrs. Myers was taken on April 28, 2023. Mrs. Myers stated she was home sick on the day of the accident but received a text informing her of the accident. Mrs. Myers stated she called Corey McMurray and then drove to the scene. Mrs. Myers stated she was on scene when Corey opened the doors to check the load. Mrs. Myers stated she was on a FaceTime call with Corey when they unloaded the trailer at Abernathy. Mrs. Myers stated she documented the load from the day of the accident. Mrs. Myers stated the way the rolls were loaded into Mr. Glover's trailer caused an unsafe amount of weight in the nose of the trailer with minimal weight in the rear. Mrs. Myers stated Graphic Packaging should have never loaded and stacked all six 50-inch rolls into the nose of the trailer first. Mrs. Myers stated this caused an uneven distribution of weight throughout the trailer. Mrs. Glover stated there were no trackage mats used in the trailer. Mrs. Myers stated the trailer was improperly and unsafely loaded by not loading the trailer far enough back. Mrs. Myers stated the load did not even reach the 30-foot mark of the trailer.<sup>3</sup>

## **Statement of Cory McMurry**

The statement of Mr. McMurry was taken on April 28, 2023. Mr. McMurry stated he was working at the Abernathy office and received a phone call from Mrs. Myers informing him of the accident. Mr. McMurry stated after the call he drove to the scene. Mr. McMurry stated Mr. Glover was already on his way to the hospital when he arrived, he photographed the tractor-trailer on its side and was able to open the doors once the trailer was right side up. Mr. McMurry stated he could see indentions in the walls from the paper rolls. Mr. McMurry stated he could see how far into the nose the paper rolls were loaded. Mr. McMurry stated that almost the entire back one-third of the trailer had no cargo in it. Mr. McMurry stated Mr. Glover's trailer was taken directly from the scene to the Abernathy warehouse. Mr. McMurry stated he opened the doors to inspect the load, he took photographs of the load, and then began a FaceTime call with Mrs. Myers to document as he unloaded. Mr. McMurry stated the first way it was apparent to him Mr. Glover's trailer was improperly loaded was based on the back one-third of the trailer was empty. Mr. McMurry stated any 40-foot trailer carrying that amount of weight should be loaded to at least the 30-foot line in the trailer. Mr. McMurry stated given the cargo Graphic Packaging should have never loaded and stacked all six 50-inch rolls into the nose of the trailer. Mr. McMurry stated that he is aware of multiple safe ways these rolls

<sup>&</sup>lt;sup>3</sup> Statement of Ashly Myers.



<sup>&</sup>lt;sup>2</sup> Statement of Thomas McQueen and Curtis McChester

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could have been organized. Mr. McMurry wrote out a proper load pattern for Mr. Glover's load. Mr. McMurry stated Graphic Packaging failed to place any trackage mats underneath the paper rolls in Mr. Glover's trailer.4

## **VEHICLE AND SCENE INSPECTIONS**

## Mr. Glover's 2013 Freightliner Tractor & Trailer

The Freightliner tractor was examined and documented by Aperture on August 26, 2022. The Freightliner tractor had been examined and documented by others prior to our inspection. Photographs and videos taken by others have been reviewed and relied upon. The Freightliner sustained damage to the driver side. Fiberglass fractures, scraping, and scratching were visible on portions of the hood and cab. The front bumper was missing. Scratch patterns were visible along the driver's side steps. The driver's side of the windshield was broken. The scratch patterns extended longitudinally rearward with a downward angle from top to bottom. The heavy vehicle event data recorder (HVEDR) was removed before the time of our inspection and had been downloaded by others. The Freightliner was also equipped with an AT&T Fleet Complete fleet monitoring system. Three tires were found to be in violation based on tread depth.



Figure 1. Damaged Freightliner Cascadia

The trailer was examined and documented by Aperture on August 26, 2022. The trailer had been repainted prior to our inspection. The trailer had been examined and documented by others prior to our inspection. Photographs and videos taken by others have been reviewed and relied upon. The trailer sustained damage to the driver side of the container. Scratch patterns were visible along the driver side of the trailer. The scratch patterns extended longitudinally rearward with a downward angle from top to bottom. Indentations extending outward along the driver's side of the trailer were also visible.

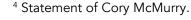






Figure 2. Damaged trailer photographs taken by others prior to re-paint.

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Figure 3. Damaged trailer photographs taken by Aperture after re-paint.

#### **Accident Scene**

The accident scene was inspected and documented by Aperture on August 26, 2022. Physical evidence of the accident was present at the time of our inspection. Pavement scratching was still visible at the time of our inspection. The geometry of the roadway was documented at this time. US-59 was made up of three lanes. Two lanes were marked for straight-through traffic at the intersection. The right lane was marked for right turn travel onto Bishop Road. The right lane is slightly uphill and flattens when connecting with Bishop Road. The radius of the right turn was measured from inside to outside edge of roadway, approximately 97.1 to 129.3 feet.





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Figure 4. Accident scene documented on August 26, 2022.

## **ANALYSIS**

## **Impact Orientation**

The physical evidence (documented vehicle damage) has been evaluated to determine the relative orientation at impact. Damage to the Freightliner began at the front of the vehicle and continued rearward to the back of the vehicle. The height of the damage extended up to approximately 9.6 feet. Damage to the trailer began at the front of the trailer and continued rearward to the back of the trailer. The height of the damage extended up to approximately 13.1 feet. The damage pattern indicated the Freightliner tractor and trailer rolled over onto its driver side and proceeded to slide across the roadway surface before coming to final rest.

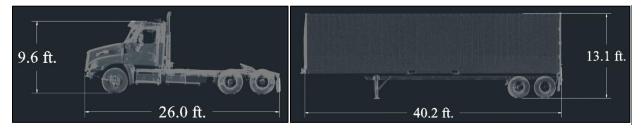


Figure 5. Three-dimensional scan data of Freightliner tractor-trailer.

#### **Event Data Recorders (EDRs)**

The heavy vehicle event data recorder (HVEDR) from Mr. Glover's Freightliner was downloaded by others on July 1, 2022. The HVEDR was capable of recording two hard brake events and one last stop event. Both hard brake events were recorded before the date of the accident. This is consistent with no hard braking occurring during the subject accident. The last stop event can record the last one minute and forty-five seconds of travel data, including speed, braking, engine speed, etc. before the ignition key is switched off. The last stop data related to the subject accident was overwritten on March 3, 2022, when the Freightliner was started and driven reaching speeds of approximately 12 mph.



Data associated with AT&T Fleet Complete were provided in the form of an excel spreadsheet. This data is associated with GPS equipment installed in Mr. Glover's Freightliner at the time of the accident. The data provided indicated the Freightliner experienced a "harsh cornering" event at approximately 10:44am CST. The "harsh cornering" threshold value is not given in the provided data but is available to Abernathy. The lateral acceleration values required for "harsh cornering" were recorded via internal accelerometers installed in the AT&T Fleet Complete hardware. The event was triggered at (33.39399, -94.09888). The accuracy provided indicated a value of 6 meters (19.7 feet). The speed provided indicated the Freightliner was travelling approximately 22 mph through the right turn prior to the rollover event. The speed was recorded via direct ECM data or GPS data.5

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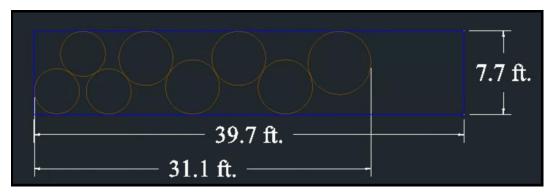
Figure 6. "Harsh Cornering" event provided by AT&T Fleet Complete.

### Load Pattern

Statements by Ashly Myers and Cory McMurry with Abernathy indicated the trailer was improperly and unsafely loaded on the day of the accident due to the load pattern. Mrs. Myers stated the trailer was improperly and unsafely loaded by not loading the trailer far enough back. Mrs. Myers stated the load did not even reach the 30-foot mark of the trailer. Mr. McMurry stated that almost the entire back one-third (13 feet) of the trailer had no cargo in it. Mr. McMurry stated any 40-foot trailer carrying that amount of weight should be loaded to at least the 30-foot line in the trailer. A load pattern analysis was performed utilizing published interior dimensions of the 40-foot cargo container and compared to real-world observations taken during the vehicle inspection. The interior length of the cargo container is approximately 39.7 feet. The interior width of the cargo container is approximately 7.7 feet. Positioning the load as far forward as possible, the end of the 70-inch roll is at minimum approximately 31.1 feet from the front of the trailer. This is inconsistent with the statements by Mrs. Myers and Mr. McMurry.

<sup>&</sup>lt;sup>5</sup> AT&T Fleet Complete documentation





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Figure 7. Load pattern utilized in Mr. Glover's trailer on the day of the accident.

#### Mr. Glover's Accident Scenario

The scenario described by Mr. Glover indicated he conducted a pre-trip inspection of the tractor and trailer he was driving on the day of the accident. The tractor was equipped with three separate tires that met criteria for violations. These tires exhibited 0/32 tread depth measurements along two adjoining tread channels. The condition of these tires would have been ongoing for an extended period prior to the day of the accident. There would have been multiple opportunities to identify and address the issue during pre-trip inspections before the day of the accident. This is inconsistent with Mr. Glover's statement on conducting pre-trip inspections of the tractor and trailer.

Video taken at the scene depicts the final rest position of the tractor-trailer. Also, visible were impact marks and scraping from the left rear corner of the trailer contacting the roadway during rollover. The impact marks and scraping were approximately 17.3 to 23.9 feet ending at final rest. Mr. Glover's slide to stop utilized published deceleration data of approximately 0.5 to 0.6 g. Mr. Glover would have been travelling approximately 16 to 21 mph at the time the left rear corner of the trailer contacted the roadway. The slide to stop speed should be lower when compared to pre-rollover speed. Mr. Glover's rollover threshold and speed utilize dimensions and geometry from the tractor-trailer, load, and roadway. The threshold values represent the lateral accelerations the tractortrailer would have been capable of withstanding prior to a rollover event occurring. The static rollover threshold utilizes the tractor-trailers track width of approximately 72 inches and overall center of gravity (cg) of approximately 85 inches. The calculated static rollover threshold was approximately 0.42 g. The dynamic rollover threshold utilized the previous data in addition to the total lateral cg shift from body roll and load. The calculated dynamic rollover threshold was approximately 0.33 g with no lateral cg shift from the load. The corresponding dynamic rollover speed was approximately 24 to 28 mph. The calculated dynamic rollover threshold was approximately 0.26 g with an estimated 6 inches of lateral cg shift from the load. The corresponding dynamic rollover speed was approximately 22 to 25 mph. The speed at which rollover could occur is consistent with speed data from AT&T Fleet Complete and only requires a minimal lateral cg shift from the load of 6 inches. This is inconsistent with Mr. Glover's statement



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that he normally travelled approximately 10 mph around that curve. This is inconsistent with Mr. Glover's statements that a tractor should be travelling 10-15 mph to take that curve safely. This is inconsistent with the witnesses' statements that Mr. Glover was travelling approximately 10 mph through the turn.

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Figure 8. Final rest position of Freightliner tractor-trailer.

## **CONCLUSIONS**

The following can be stated to a reasonable degree of scientific certainty:

- (1) The accident occurred at approximately 10:45am CST on January 11, 2022;
- (2) The physical evidence indicated the left rear corner of the trailer came into contact with the roadway and proceeded to slide 17.3 to 23.9 feet to final rest;
- (3) The Freightliner was travelling approximately 22 mph prior to the rollover event;
- (4) The Freightliner was travelling approximately 16 to 21 mph at the time the trailer contacted the roadway surface;
- (5) The witness statements are inconsistent with the physical evidence;
- (6) The testimonial evidence of Mr. Glover is inconsistent with the physical evidence;
- (7) Mr. Glover's speed was unsafe given the physical evidence and conditions;
- (8) Mr. Glover failed to control the speed of his vehicle;
- (9) The primary cause of the rollover event was the Freightliners' speed during the turn;

This will conclude the analysis of the data available at the present time. If additional information is made available, I would appreciate receiving such information for review



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August 7, 2023

and reserve my right to amend any of the opinions contained herein. Should you require clarification of any of the material contained herein, please do not hesitate to contact me directly. Thank you for the opportunity to be of assistance in this matter.

Shanon Burgess



## **REFERENCES**

- 1. Baker, J. S., Fricke, L., "Traffic-Accident Investigation Manual, 11th Edition," Northwestern University Center for Public Safety, Evanston, IL, 2014.
- 2. Fricke, L., "Traffic Accident Reconstruction Manual, 2nd Edition," Northwestern University Center for Public Safety, Evanston, IL, 2010.
- 3. Limpert, Rudolf, "Motor Vehicle Accident Reconstruction and Cause Analysis," 5th Edition. Charlottesville, VA: Michie, 1984.
- 4. Winkler, C.B., "Rollover of Heavy Commercial Vehicles", The University of Michigan Transportation Research Institute (UMTRI), August 1999

